

## REMARKS

Claims 1-13 and 15-37 are pending in this application. In this Response, Applicants have provided remarks that explain some of the differences between the references cited by the Examiner and the present invention. In light of these differences, Applicants respectfully request reconsideration and allowance of the pending claims.

### THE REJECTIONS UNDER 35 U.S.C. §112

At pages 2-3 of the Office Action, the Examiner rejected claims 18-27 under 35 U.S.C. §112, second paragraph, as being indefinite. Specifically, the Examiner stated that the features in lines 9-10 of claim 18 seemed to be inconsistent with the features in lines 5-6. However, Applicants submit that the Examiner's rejection is based on an erroneous reading of the claim. Contrary to the Examiner's assertion, the claim does not require that the marker recited in line 8 must be *different* from the fluorescent marker. Rather, claim 18 states that the monitor system *comprises* the elements recited in lines 3-12. As the Examiner is aware, the transitional phrase "comprises" is open ended and does not exclude additional unrecited elements or process steps. *See, e.g., Genentech, Inc. v. Chiron Corp.*, 112 F.3d 495, 501 (Fed Cir. 1997). As such, when properly interpreted, claim 18 is not indefinite as suggested by the Examiner, *i.e.*, even if the first and second camera both view the "other object" recited in lines 7-8, they may still acquire images of light emitted by fluorescent markers positioned on its surface.

The Examiner also rejected claim 18 by stating that the limitation recited in lines 11-12, *i.e.*, "determining the kinematics of at least one of the at least two objects," contradicts the preamble in lines 1-2, *i.e.*, "measuring kinematics of at least two objects." Applicants submit, however, that this rejection is also based on an erroneous reading of claim 18. Lines 9-12 of claim 18 merely define the capability of the system to analyze the images of light emitted by the fluorescent markers positioned on one object to determine the kinematics of that particular object. This recited feature does not, as asserted by the Examiner, preclude the measuring of the kinematics of the second object.

Thus, when properly construed, the claims are not indefinite under 35 U.S.C. §112. As such, Applicants respectfully request reconsideration and withdrawal of the rejection.

## THE REJECTIONS UNDER 35 U.S.C. §103

At pages 3-6 of the Office Action, the Examiner rejected claims 1-13 and 15-37 under 35 U.S.C. §103(a) as being obvious over U.S. Patent Publication No. 2002/0093641 to Ortyn (“Ortyn”) in view of U.S. Patent No. 5,575,719 to Gobush *et al.* (“Gobush”). As explained in detail below, neither Ortyn nor Gobush, either alone or in combination, disclose or suggest the present invention.

### Ortyn Is Not Analogous

Ortyn generally discloses an apparatus for measuring the velocity of extremely small moving objects, such as cells. *See* Para. 0023. This is accomplished using a light source that shines on the one or more cells. *See* Abstract. Light from the cells is subsequently directed to a detector that is capable of determining their velocity. *Id.* In the first, third, and fourth embodiments disclosed by Ortyn, the cells are deposited on a support that is moved through a field of view. *See* Para. 0098. The second embodiment differs by determining the velocity of cells that are entrained in a fluid flow that passes through the field of view. *Id.*

In contrast, the present invention provides a system and method for measuring the kinematics of golf clubs and golf balls using fluorescent markers. As a threshold matter, it is clear that the golf clubs and golf balls measured in the present invention are much larger than the objects measured in Ortyn. As such, the systems for measuring velocity differ significantly at least with respect to the magnitude. For example, Ortyn states that the velocity of the cells may be between 5 mm/s and 100 mm/s (*see, e.g.*, Para. 0137), whereas a golf club in motion typically travels between 50 mph and 125 mph, and a golf ball in motion typically travels between 80 mph and 175 mph. In addition, high speed measurements for golf balls involve high speed cameras, strobe lamps, and precise timing circuitry. In addition, the golf objects in the present invention are not mounted on a support that is moved through the field of view, and they are not entrained in a fluid flow that passes through the field of view. Furthermore, the system of the present invention features the ability to measure the kinematics of the golf objects, including rotation. On the other hand, Ortyn is limited to velocity measurements, and does not disclose or suggest the presently recited ability to perform any other kinematic measurements.

Accordingly, Applicants submit that the disclosure of Ortyn is clearly not within the art of the present invention and is not concerned with the problem that the present invention seeks to address, *i.e.*, measuring the kinematic characteristics of golf equipment.

**Ortyn Does Not Disclose or Suggest the Present Invention**

Even if, *arguendo*, Ortyn is considered to be analogous to the present invention, Applicants submit that the claimed subject matter is not taught or suggested in Ortyn. As mentioned above, Ortyn discloses an apparatus that measures the velocity of cells. *See Abstract*. In the Examiner's rejection of independent claim 1, the Examiner does not discuss where Ortyn teaches or suggest fluorescent markers.

In addition, the Examiner appears to base the rejection of independent claim 18 on paragraphs 0023, 0015, 0126, and 0125, however, these paragraphs do not appear to teach or suggest the use of a fluorescent marker in determining kinematics. For example, paragraph 0015 merely discusses a prior art patent that uses a fluorescent dye to stain an object in order to track the motion of the stained object. In fact, the disclosure of a fluorescent dye in paragraph 0015 leads to a discussion of the disadvantages of the method with which the fluorescent dye is used. *See Para. 0015-0016*. Furthermore, paragraphs 0023 and 0125 are completely silent with regard to markers of any type, including fluorescent markers. And, while fluorescence emission of a cell is briefly mentioned in paragraph 0126 with regard to using such emissions to sort cells, the paragraph is completely silent as to the use of fluorescent markers or their application to the Ortyn system. As such, Applicants respectfully submit that, contrary to the Examiner's assertion, Ortyn does not disclose or suggest the use of fluorescent markers to determine the kinematics of a golf object.

**Gobush Does Not Remedy the Deficiencies of Ortyn**

In the rejection of claims 1-13 and 15-37, the Examiner combined Ortyn with Gobush. Gobush is directed to a monitoring system that determines a golf object's movement and orientation, and the conditions at impact with the object in which Gobush uses a reflective material to form markers. *See Abstract and Col. 3, lines 3-18*. Thus, because it fails to teach or suggest the use of fluorescent markers in combination with golf objects, a feature of the present invention also absent from Ortyn, Gobush does not remedy the deficiencies of Ortyn.

In addition, there is no suggestion to combine Ortyn and Gobush. Ortyn pertains to determining the velocity of cells, which move between 5 mm/s and 100 mm/s. *See Para. 0137*. Gobush, on the other hand, relates to monitoring moving golf clubs, which move between 50 and 125 mph, and golf balls, which move between 80 mph and 175 mph. As such, a skilled artisan

would not have been motivated to look to Ortyn to modify the monitoring system of Gobush without the present invention to use as a template, which is, of course, a classic case of hindsight. Furthermore, even if Ortyn and Gobush were combined, they would not result in the present invention, as described above.

Thus, neither reference alone, or in any combination, teach or suggest the present invention. As such, Applicants respectfully request reconsideration and withdrawal of the §103 rejection of the claims.

### CONCLUSION

All claims are believed to be in condition for allowance. If the Examiner believes that the present remarks still do not resolve all of the issues regarding patentability of the pending claims, Applicants invite the Examiner to contact the undersigned attorney to discuss any remaining issues.

A Petition for Extension of Time is submitted herewith to extend the time for response one month to and including December 26, 2005. A Fee Sheet Transmittal is submitted herewith to pay for the one month extension of time. No other fees are believed to be due at this time. Should any fee be required, however, please charge such fee to Swidler Berlin LLP Deposit Account No. 195127, Order No. 20002.0162.

Respectfully submitted,  
SWIDLER BERLIN LLP

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